Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

entitled "Inventaire des Monuments Myalithiques du Départment d'Ille and Vilaine" [in North-west France]. Published by the Societé Archéologique d'Ille-et-Vilaine, 1883, pp. 280, 29 plates, and 2 maps. The plan of the work is as follows: Dolmens, alignments, cromlecks, polishing stones, *pierres a bassins*, rocking stones, to the number of 425 are located and described minutely. This occupies 241 pages, and is followed by a table in which, by number, these megaliths are defined by communes, cantons, and arrondissements. The 29 plates are devoted to illustrating the most prominent and notable of the monuments. The first map locates, by means of the Mortillet and Chantre symbols, every monument in Sixtant St. Just, and the second map, in a general way, indicates the distribution of these works in the entire department above named.

THE ANTHROPOLOGICAL SOCIETY OF LYON.—The first part of Vol. 2 of the Bulletin of this society is at hand. Much of the contents has little interest for us. On page 72 is a short paper on Zulus, illustrated with two plates of arms and utensils. There follows a communication on the tubulum among the ancients. A specimen of this implement was on exhibition in the Tunis department at our Centennial Exhibition. It is still in use quite extensively in Northern Africa and Western Asia. On pages 92–107 M. Ernest Chantré describes carefully a necropolis explored by him in Koban (Caucasus). M. Cornivin has for a long time been studying the wormian bones in the face of domestic animals—an abstract is given on page 119.

MICROSCOPY AND HISTOLOGY.[1]

COLLODION AS A FIXATIVE FOR MICROSCOPICAL SECTIONS.—Sections fixed by means of a solution of collodion in clove oil, as recommended by Schällibaum[2], may be colored on the slide. The method is as follows:

The solution which is prepared by dissolving *one part collodion in three or four parts clove oil*, is applied to the slide by means of a fine brush, at the time of using. The sections having been arranged, the slide is warmed for a few minutes (5–10) in the oven of a water-bath, in order to evaporate the clove oil. The sections may next be freed from the imbedding mass, and colored according to desire. If the film of collodion be too thick, cloudiness is likely to arise between the sections. The cloudiness can be removed by the use of a brush, wet with clove oil, after the sections have been anhydrated by absolute alcohol.

---

[1] Edited by Dr. C. O. WHITMAN, Mus. Comp. Zool., Cambridge, Mass.

[2] H. Schällibaum, "Ueber ein Verfahren mikroskopische Schnitte auf dem Objectträger zu fixiren und daselbst zu färben." Archiv. f. Mik. Anat. XXII, p. 689, 1883.

Gage[1], who had begun to experiment with collodion before Schällibaum's method was published, recommends that the collodion and clove oil be applied separately:

"A solution of collodion is prepared by adding to 2 grams of gun cotton (that used by photographers is good) 54^{cc} of sulphuric ether and 18^{cc} of 95 p. c. alcohol. After the gun cotton is entirely dissolved, the solution should be filtered through filter paper or absorbent cotton. The slides are coated by pouring the collodion on one end, allowing it to flow quickly over the slide and off the other end into the bottle. The prepared slides should be kept free from dust. As the collodion will not deteriorate after drying on the slide, any number of slides may be prepared at the same time. Before using a slide it should be dusted with a camel's hair brush, and with another brush the collodionized surface of the slide should be thinly painted with clove oil.

" * * * The sections are arranged as in the shellac method. The slide is warmed over an alcohol lamp and then heated in a warm chamber so as to drive off the clove oil. After cooling, it may be placed in a wide-mouthed vial of turpentine, chloroform, xylol, or refined *naphtha*, to remove the paraphine. Naphtha is very cheap, and is the best agent we have yet tried for dissolving the imbedding mass. The sections are usually freed from imbedding mass within half an hour, though the slide may remain in any of the solvents mentioned for two or three days, or perhaps indefinitely, without loosening the sections. When the slide is removed from the naphtha, the sections are washed with 95 p.c. alcohol by means of a medicine-dropper, or by immersing the slide in alcohol. If the sections are to be stained in Kleinenberg's hæmatoxylin or in any other stain containing 50 p.c. or more alcohol, the slide is transferred directly from the alcohol used for rinsing to the staining agent, otherwise it should be first transferred to 50 p.c. alcohol and from that to the staining agent. Whenever the sections are sufficiently stained, they may be mounted in any desired mounting medium. In case Canada balsam is to be used, the slide must be immersed in alcohol to wash away the stain, and finally in 95 p.c. alcohol to completely anhydrate the sections. They are cleared with a mixture of carbolic acid 1 part, turpentine 4 parts. The balsam to be used is prepared by mixing 25 grams of pure Canada balsam with 2^{cc} of chloroform and 2^{cc} of clove oil. The latter very soon removes any cloudiness that may have appeared in the collodion film."

BORN'S METHOD OF RE-CONSTRUCTING OBJECTS FROM MICROSCOPIC SECTIONS.[2]— Dr. G. Born describes in detail a very ingenious method of constructing models of objects from serial sections. By the aid of the camera the outlines of the sections are transferred to wax plates, which are then cut out so as to correspond in outlines as well as dimensions to the sections equally magnified in all three directions. With plates thus prepared, it is only necessary to put them together in the proper order to obtain a complete model. The method is simple and extremely useful, especially in investigating objects with complex internal cavities.

---

[1] H. Gage and T. Smith. "Serial Microscopical Sections," *The Medical Student*, p. 14, November, 1883.

[2] G. Born. "Die Plattenmodellirmethode." Archiv. f. Mik. Anat. XXII., p. 584, 1883. First described in Morphol. Jahrbuch II., p. 578, 1876.

Born has made use of the method in studying different parts of the vertebrate head; Swirski, in elucidating the development of the shoulder-girdle of the pike; Stöhr, in tracing the development of the skull of amphibia and teleostei; and Uskow, in studying the development of the body cavity, the diaphragm, etc.

An illustratian of the method.—Born makes use of three rectangular tin boxes of equal size, each measuring $270^{mm} \times 230^{mm} \times 2\frac{1}{2}^{mm}$. Sections should be made about $\frac{1}{25}^{mm}$ thick (never thinner than $\frac{1}{50}^{mm}$). If we desire to construct a model of an object from serial sections $\frac{1}{30}^{mm}$ thick, which shall be magnified 60 diameters, then the wax plates must be made 60 times as thick as the sections, *i.e.*, 2^{mm} thick.

The surface of a plate that could be made in a box of the above named dimensions, contains $62{,}100\square^{mm}$; and the volume of such a plate 2^{mm} thick would therefore be 124.2^{ccm}. The specific gravity of common raw beeswax amounts to .96–.97. For use, it requires only to be melted and a little turpentine added to make it more flexible. Thus prepared, its specific gravity is about .95; and this number has been found sufficiently accurate in all cases. The weight of the wax required to make one plate of the above size, will accordingly be 117.99 gr., or, in round numbers 118 gr. The wax having been weighed and melted, the tin box is first filled $1\frac{1}{2}^{cm}$ deep with boiling water, and then the melted wax poured upon the water. If the water and the wax are quite hot, the wax will generally spread evenly over the surface; if gaps remain, they can be filled out by the aid of a glass slide drawn over the wax. As soon as the plate has stiffened, and while it is still soft, it is well to cut it free from the walls of the tin box, as further cooling of the water and the box might cause it to split. By the time the water becomes tepid, the plate can be removed from the water to some flat support, and left till completely stiffened. Half a hundred plates may thus be prepared in the course of a few hours.

The outlines of the section are transferred to the plate in the following manner: A piece of blue paper is placed on the plate with the blue side turned toward the wax, and above this is placed a sheet of ordinary drawing paper. The outlines are drawn on the latter by the aid of a camera, and at the same time blue outlines are traced on the wax plate. The plate can then be laid on soft wood and cut out by the aid of a small knife. Thus a drawing and a model of each section are prepared. The plates thus prepared can be put together in the proper order, and fastened by the aid of a hot spatula applied to the edges.

——:o:——

SCIENTIFIC NEWS.

—A Scientific Swindler.—A few weeks ago, a man calling himself W. R. Taggart, and claiming to be a member of the Ohio Geological Survey, visited Philadelphia. He called on the principal scientific men of this city, and attended one of the regular meetings of the Academy of Natural Sciences. He seemed to have an extended acquaintance with scientific men, talked very glibly about fossils, and claimed to be writing a report on the Productidæ. He is about 5 feet 8 inches in height, weight, 160 pounds, heavy set, heavy featured, light hair, rather deep set eyes; rather shabbily dressed. He had an adroit way of ingratiating himself into the confidence of his intended victims, and then if he could not steal, he would, under some plausible pretext, borrow valuable books or specimens to take to his hotel and forget to return them. His victims are to be found in nearly every important town in the country. In New York, he was E. D. Strong, of Fort Scott, Kansas, and was employed by the Kansas Pacific railway to collect statistics of coal production. In West Philadelphia he gave his name as E. Douglas, of Columbus, Ohio, member of the State Survey. In Auburn, N. Y., he was a deaf mute under the name of E. D. Whitney, U. S. Geologist, Denver, Col. There he obtained a large quantity of valuable geological books and fossils from Professor Starr. In Harrisburg, Chambersburg, Indianapolis, and Columbus, he was a deaf mute. At Indianapolis he swindled the State Geologist out of $100 worth of rare books, among them Schimper's "Palæontologie Vegetale." He has been permitted access to several museums, public and private, from which he has abstracted valuable specimens and sold them. Any information in regard to the real name and residence of this man is much desired.

P. S.—I hear from Professor Lesquereux that he was at Columbus, that he has swindled some parties at Dayton, O. He got hold of valuable Indian relics from the Cleveland Historical Society worth $50 or more. From Professor Mees, of Athens, O., he borrowed some valuable physical instruments and sold them, &c., &c.—*F. V. H.*

— We reprint with pleasure the following appreciative notice of the late Mr. Robert B. Tolles, optician, of Boston, which appears in the *English Mechanic:* During several years past he devoted himself to the improvement of the microscope, and to the production of telescopes of unusually short focus, and his work